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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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01/16/2007

David Hobson

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The Lubrizol Corporation
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EXAMINER

GRAHAM, CHANTEL LORAN

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/598,577	Applicant(s) HOBSON ET AL.	
	Examiner CHANTEL GRAHAM	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-8 and 11-22 is/are pending in the application.
- 4a) Of the above claim(s) 17, 21 and 22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-8, 11-16 and 18-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendment filed 7/30/2010 has been entered and fully considered.
2. Claims 4, 9 and 10 have been canceled.
3. New claims 16-22 are supported by the specification as originally filed.
4. Claims 1-3, 5-8, 11-16, and 18-20 are pending and have been fully considered.

Election/Restrictions

Newly submitted claims 17 and 21-22 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

1) claim 17 is directed to a ***distinct product*** (a grease composition) and not a composition comprising as is apparent from claim 1 and the composition in claim 1 does not include at least one essential component mentioned in claim 17, wherein the carboxylic acid is a hydroxy substituted alkanoic acid, and a dispersion;

2) Claims 21 and 22 is directed to a ***product*** and not a ***process of making*** as apparent from claim 20 and the product of claims 21 and 22 are not limited to the product made in claim 6.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 17 and 21-22 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

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Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 1-3, 5-8, 11-16 and 18-20, are rejected under 35 USC 103 (a) as being obvious over FORSBERG (US PATENT 4094801), and in view of ROTHON ET AL. (US PATENT 5461101), and in view of BASIC INC (GB1061161), and further in view of MAGYAR (US PATENT 5851961), and as evidence by RICHARDS (US PG PB 20040260013).

Regarding claims 1-3, 5-8, 11-16 and 18-20:

FORSBERG teaches additives for lubricants and fuels that consists of magnesium-containing liquid dispersion composition by mixing: (A) (metal base) at least one of magnesium hydroxide, magnesium oxide, hydrated magnesium oxide, or a magnesium alkoxide; (B) (surfactant) an oleophilic organic reagent comprising at least one carboxylic acid, a mixture thereof with at least one sulfonic acid, or an ester or alkali metal or alkaline earth metal salt of the same **(step (4) optionally reacting the dispersion of step (2)-(3) with a carboxylic acid substituted with an ester)**; (C) water; and (D) at least one organic solubilizing agent for component B (abstract; col. 1 line 10 – col. 2 line 10; see also claim 1);

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also materials useful as component D include substantially inert, normally liquid organic diluents (col. 5 lines 55-56). Non-polar compounds or mixtures of compounds such as kerosene, mineral oil, and alkylbenzenes are examples of liquid diluents (liquid fuel) (col. 6 lines 5-16). Component B is at least one oleophilic reagent comprising any of several types of organic acidic compounds or salts or esters thereof. The aliphatic substituents usually contain a total of at least about 12 carbon atoms. Among the suitable reagents are the carboxylic and sulfonic acids. The preferred compounds for use as component B are the sulfonic and carboxylic acids, especially those having an equivalent weight of about 300-500 (surfactant has a molecular weight of less than about 1000). The sulfonic acids that are preferred are expressed for alkylaromatic sulfonic acids and more particularly for alkylbenzenesulfonic acids (hydrocarbyl substituted benzene sulphonic acid). Still another object is to provide magnesium-containing compositions useful as greases (wherein the composition is a grease), as detergent additives for lubricants or as corrosion inhibitors (demulsifier) (col. 2 lines 4-8). Examples 1-4 are particularly useful for employing in a variety of lubricants based on diverse oils of lubricating viscosity, including natural and synthetic lubricating oils and mixtures thereof (col. 13 lines 30-45). Magnesium hydroxide, 233 parts, is added to 600 parts of the alkylbenzenesulfonic acid of Example 1. The mixture is heated gradually to about 80°C over about 2 hours, whereupon a gel forms. A 602-part portion of the resulting gel is diluted with 200 parts of toluene. The solution is centrifuged and the toluene removed by blowing with nitrogen at 160-170°C (EXAMPLE 4; see EXAMPLES 1-18).

FORSBERG does not explicitly teach that the dispersion viscosity as measured by TA Instruments AR 500TM Rheometer using cone on plate geometry; however it is inherently

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taught as evidenced by RICHARDS. RICHARDS teaches **the viscosity of dispersants are measured on TA instruments Rheometer with cone and plate geometry over a range of shear rate from 38- 2392 s⁻¹ and measured from about less than 5.68 (see TABLE 2) (which overlaps Applicant claimed ranges from about 0.003 Pas to about 5 Pas).**

Again, RICHARDS is considered a teaching reference, not a modifying reference.

See MPEP 2112.

FORSBERG does not explicitly teach that the mean particle size ranges from 15 nanometers to about 1 micrometer, the organic medium containing less than about 2 wt % of water, the dispersion has a solid content from about 15 wt % to about 84 wt %, the HLB for surfactants, and grinding the slurry.

However BASIC INC, ROTHON ET AL., and MAGYAR do.

BASIC INC teaches a concentrate suitable for the addition to a fuel oil containing corrosive inhibitor, said concentrate being a fluid, pumpable dispersion comprising an organic fuel oil based on the total weight of the dispersion of a solid particulate metal-containing compound such as magnesium hydroxide or any inorganic compound (see claim 7), an oil-compatible carboxylic acid or salts; which contains from 1-20 carbon atoms (see claims 1-2). BASIC INC also teaches that the acids in the concentrates (organic medium) are substantially water-insoluble and oil-miscible with or without the presence of the solid component **(an organic medium containing less than about 2 wt % of water) (the composition is substantially free of an oil insoluble solvent)** (pg 2 ln 45-49). BASIC INC also teaches slurries of lose fluid properties and even grinding of its solid component as by ball mills (pg. 1 lines 60-64); and that the organic fuel oil having dispersed therein at least 40% by weight, based on the total weight of the dispersion **(dispersion has a solid content**

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from about 15 wt % to about 84 wt % and 55 wt% to about 84 wt %) (pg 1 lines 65-85; also see claim 1).

ROTHON ET AL. teaches in col. 3 ln 53-56, milling to produce slurry containing magnesium hydroxide particles with an average particle size of 0.3-1.9 microns, which overlaps the claimed range (**metal base with a mean particle size ranging from 15 nanometers to about 1 micrometer**).

MAGYAR teaches lubricity agent for water/oil dispersion compositions where the surfactant has a HLB value of about 10 to about 19 (col. 1 lines 64-65).

At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the composition of FORSBERG; by incorporating that the organic medium can be substantially free of a water; and the dispersed content, grinding and milling technique of BASIC INC, the metal base with a mean particle size of ROTHON ET AL., and the surfactant HLB value of MAGYAR.

The motivation would have been to provide complexes in liquid or solid form, and are useful as additives for lubricants and fuels and as protective coating compositions for metal surfaces (such as automotive undercoats and frame coatings) as taught by FORSBERG (abstract).

Response to Arguments

Applicant's arguments filed 7/30/2010 have been fully considered but they are not persuasive, and the Examiner maintains the rejection above.

Applicant argues "*Forsberg discloses compositions that contain water (typically significant amounts or ranging from 2.73 wt. % 39.37 wt. %), and compositions that have 8 wt. % to 37.63 wt. % solids. In addition, the majority of compositions are noted to in the form of a gel (see column 9, line 40 to column 12,*

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line 62; in particular examples 1-9 and 11). A gel as noted from Concise Science Dictionary". Third Edition (a copy of the relevant page is enclosed. page 155) is a lipophilic colloid that has coagulated to a rigid or jelly-like solid. In a gel, the dispersion medium has formed a loosely-held network of linked molecules through the dispersion medium. In addition, examples 14 and 16 are noted by Forsberg as being solid or a grease-like material. As a result of the gelled nature or solid nature of the products of Forsberg, the viscosity of the products will be greater than the presently claimed viscosity of 0.003 Pa s to about 5 Pa s."

Examiner respectfully disagrees. FORSBERG teaches additives for lubricants and fuels in the abstract, and Applicant is arguing one embodiment of FORSBERG; however Applicant is reminded that a reference is good not only for what it teaches but also for what one of ordinary skill might reasonably infer from the teachings. *In re Opprecht* 12 USPQ 2d 1235, 1236 (CAFC 1989); *In re Bode* USPQ 12; *In re Lamberti* 192 USPQ 278; *In re Bozek* 163 USPQ 545, 549 (CCPA 1969); *In re Van Mater* 144 USPQ 421; *In re Jacoby* 135 USPQ 317; *In re LeGrice* 133 USPQ 365; *In re Preda* 159 USPQ 342 (CCPA 1968). In addition, a reference can be used for all and any of its teachings and is not limited to the disclosure in its preferred embodiments. See *In re Van Marter*, 144 USPQ 421.

The Examiner position is that FORSBERG discloses a composition comprising a dispersion as claimed; however RICHARDS was relied on to teach that measuring the viscosity of the dispersion is known in the art to use a Rheometer, in addition FORSBERG teaches diverse oils of lubricating viscosity may be used in the composition (see col. 13 ln 30-35) (also see rejection above).

Applicant argues "*Claim 1 of the present invention relates to a dispersion defined above that comprises greater than about 35 wt % of metal base, and wherein the dispersion as measured by TA Instruments AR 500 TM Rheometer using "cone on plate geometry" measured at about 40°C at 100 s⁻¹ ranges from about 0.003 Pa s to about 5 Pa s. The presently claimed viscosity range in combination with the weight percentage of metal base results in a high solids content low viscosity composition. In the presently claimed invention, the*

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composition is dispersion. The composition of claim 1 does not have the viscosity to be considered a gel or solid."

Examiner disagrees for at least the reasons set forth above. In addition YOUNG was relied to teach slurries of loose fluid properties and even grinding of its solid component as by ball mills (pg. 1 lines 60-64); and that the organic fuel oil having dispersed therein at least 40% by weight, based on the total weight of the dispersion (**dispersion has a solid content from about 15 wt % to about 84 wt % and 55 wt% to about 84 wt %**) (pg 1 lines 65-85; also see claim 1); and RICHARDS was relied to teach **the viscosity of dispersants are measured on TA instruments Rheometer with cone and plate geometry over a range of shear rate from 38- 2392 s⁻¹ and measured from about less than 5.68 (see TABLE 2) (which overlaps Applicant claimed ranges from about 0.003 Pas to about 5 Pas).**

Applicant argues "If a person of ordinary skill were to combine Forsberg Crawford, Rothon and Young, whilst the combination may result in a dispersion that includes features referred to by the Examiner as being disclosed in the secondary references i.e., (a) the organic medium containing less than about 2 wt % of water; and

(b) the dispersion having a solid content from about 15 wt % to about 84 wt %; that has also been subject to grinding, the resultant composition would, as shown by the Declaration under Rule 132 by Claire Hollingsburst where she attempted two different methods to reduce particle size of the Forsberg composition, still be a gel or solid or contain oversized particles. In contrast, the presently claimed invention milled in the substantial absence of water is not a gel or a solid as initially made because the viscosity as measured by TA Instruments AR 500 TM Rheometer using "cone on plate geometry" measured at about 40°C at 100 s⁻¹ ranges from about 0.003 Pa s to about 5 Pa s. Thus, combination of references suggested by the Examiner results in a composition that is distinct from the claimed invention in that once you form the gel of Forsberg it

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is not reasonably viable to get to Applicant's lower viscosity fine particle dispersion even by water removal and further milling."

Examiner respectfully disagrees for at least the reasons set forth above. In addition, BASIC INC was relied to teach a concentrate suitable for the addition to a fuel oil containing corrosive inhibitor, said concentrate being a fluid, pumpable dispersion comprising an organic fuel oil having a dispersed therein at least 40% by weight based on the total weight of the dispersion of a solid particulate metal-containing compound such as magnesium hydroxide or any inorganic compound (see claim 7), an oil-compatible carboxylic acid or salts; which contains from 1-20 carbon atoms (see claims 1-2). BASIC INC also teaches that the acids in the concentrates (organic medium) are substantially water-insoluble and oil-miscible with or without the presence of the solid component **(an organic medium containing less than about 2 wt % of water) (the composition is substantially free of an oil insoluble solvent)** (pg 2 ln 45-49). Again, the Examiner reminds Applicant that FORSBERG was not relied to teach gels, but for the disclosure that additives for lubricants and fuel are taught in composition; therefore the declaration under rule 132 by Claire Hollinghurst would not be persuasive to overcome the rejection of record.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on

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the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHANTEL GRAHAM whose telephone number is (571)270-5563. The examiner can normally be reached on M-Th 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Marcheschi can be reached on 571-272-1374. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/CHANTEL GRAHAM/
Examiner, Art Unit 1797

/Ellen M McAvoy/
Primary Examiner, Art Unit 1797